

## Embedded Metadata in Video Files

iBase Professional Digital Asset Management

### 1 What is video metadata?

At the most basic level metadata is information that helps describe specific details about another item of information. In digital asset management terms there are two definitions for metadata:

For storage, cataloguing and retrieval purposes, video metadata is most commonly associated with the second definition, meta-content.

### 2 Types of video metadata – automatic

Modern digital equipment automatically adds certain metadata information to files about the technical conditions associated with the footage. Video cameras will typically add the following metadata to all footage:

These, and many other details can be written into the EXIF (Exchangeable Information File Format) data embedded into the video file at the time of recording.

Automatic metadata information is useful, but it does not necessarily make specific video files any easier to retrieve from a media library or DAM system. With the exception of GPS coordinates, it is unlikely that searches based on automatically created metadata will return the exact files required.

### 3 Types of metadata – manual

To make a specific video file easier to locate, you can add additional metadata “manually” as the file is imported to the digital asset management or media library system. Flexible metadata tagging should allow your business to add specific information to meet your exact cataloguing and retrieval needs.

Current cataloguing systems are unable to automatically index videos to provide context, or even keywords, for the contents of media files. Additional metatags allow you to catalogue and classify files, enabling simple, efficient and powerful, searching of your entire multi-media library.

The specific metatag information used differs from organisation to organisation but it could include:

Adding manual metadata is not actually a new concept. The use of a clapperboard to synchronise audio and video tracks is an example of manual metadata designed to help editors locate specific points in each recording. The only difference is that modern metadata is encoded as a data layer to accompany the footage; the clapperboard is actually part of the footage and thus impossible to index accurately within your media library. Instead the editor or reviewer needs to manually scan through the footage to identify specific points of interest. More positively, this particular form of metadata cannot be lost as it is always stored inside the video files themselves.

Businesses should already have a process for indexing and cataloguing footage as it is added to the internal media library. But to ensure that all relevant data is retrieved from a central location, this information should be stored with the files in a suitable multi-media library or digital asset

management system such as iBase Trinity. Thus the use of metadata to describe the footage makes perfect sense and is quicker than reviewing logs, or scanning video to identify clapperboard markers.

#### 4 Storing and retrieving metadata

Well targeted metadata acts like a searchable index for all of your video files. Using metadata it becomes possible to quickly assemble projects based on a diverse range of clips, often without first needing to preview them. Constructed properly, the metadata index also allows for discovery of “related” videos, further cutting down project completion times.

Using the Extensible Metadata Platform (XMP) standard, metadata information is formatted according to a common ISO standard before being embedded into the video file it references. Organisations will need to define what information they need to capture and create a suitable XMP framework to ensure that archivists and editing professionals are supplying the relevant data at the point of upload.

This XML data is then indexed by a media library database to make retrieval by editors or researchers quick and efficient. The media library should allow for this accompanying XMP data to be edited and updated as and when required to ensure that valuable video assets remain easily retrievable. Tools that allow for batch editing of XMP metatags will help speed up the process of manual cataloguing and indexing.

As organisations and broadcasters convert more of their assets from analogue to digital, considerable resources will need to be devoted to watching each video and creating relevant metadata keyword tags to ensure footage is catalogued correctly. The additional time taken to tag footage will more than recoup itself in the future however by making it easier to locate relevant footage and to help realise additional value from files that have previously been inaccessible or undiscoverable.

Where video content is particularly sensitive, metadata can be used to elicit other information that your business may not want to share. As well as the ability to add metadata, a good media library should be able to strip out this sensitive information before footage is shared. The database should also maintain an audit trail to track changes to the files and metadata to ensure that standards and policies are being properly upheld. The application of database permissions will safeguard against unauthorised users editing, reading or sharing metadata.

Ultimately properly prepared and managed video metadata will add value to a media library, making it an essential consideration for any modern archive.

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